

REMARKS

The Office Action dated May 4, 2007 has been received and carefully noted. The above amendments to claims 1, 2, 11, 15, and 25 and the following remarks, are submitted as a full and complete response thereto.

In accordance with the foregoing, claims 1, 2, 11, 15, and 25 have been amended to improve clarity of the features recited therein. No new matter is being presented, and approval and entry are respectfully requested.

Claims 1-11, 13-17, and 19-25 are pending and under consideration.

Applicants are grateful for the indication that claims 2-10, 13, 14, 19, and 23 contain allowable subject matter, and that claims 1, 11, and 25 would be allowable if amended to overcome an indefiniteness rejection.

OBJECTIONS TO THE CLAIMS:

In the Office Action, at page 2, claims 11 and 15 were objected to for minor informalities. Claims 11 and 15 have been amended to correct such minor informalities. Accordingly, it is respectfully requested that the objection to the claim be withdrawn.

REJECTION UNDER 35 U.S.C. § 112:

In the Office Action, at page 2, claims 1-11, 13-17, and 19-25 were rejected under 35 U.S.C. § 112, second paragraph, for indefiniteness. The Office Action found that some features recited in these claims were unclear.

Specifically, regarding independent claim 1, the Office Action indicated that the limitation “employing the second type of message...” in lines 13-17, renders the claim indefinite because it is unclear whether the existing LSP are kept or not in either EMPLS portion or MPLS portion. In response, Applicant respectfully traverses this rejection. Applicant respectfully indicates that the features of independent claim 1 do particularly point out and distinctly claim the subject matter which Applicant regards as the invention. Independent claim 1 recites, in part, “when a new resource is required for at least one flow of packets from the connection, employing the second type of message to reserve the newly required resource at each router that employs an enhanced MPLS (EMPLS) protocol and is disposed along the existing LSP.” Applicant respectfully indicates that a person of ordinary skill in the art would appreciate, in light of the features recited in independent claim 1, that **when a new resource is required for at least one flow of packets from the connection**, the second type of message is then used to reserve the newly required resource at each router that employs an enhanced MPLS (EMPLS) protocol and is disposed along the existing LSP. Otherwise, the second type of message is employed “to reserve the required resource at each router along the LSP for at least one flow of packets from the connection,” as recited in independent claim 1. Furthermore, such feature recited in independent claim 1 is clearly supported, at least, in FIG. 7B and pages 19 and 20 of the Specification for a person of ordinary skill in the art to make and use the invention for its intended purpose. It is respectfully requested that the rejection to this claim be withdrawn.

Regarding claim 11, the Office Action indicates that the phrase “determining whether the method operates within” in line 21 renders the claim indefinite because it is unclear how a step in a method can have limitations on the method itself. In response, claim 11 has been amended to positively recite a method step by reciting “operating within one of an enhanced Multi Protocol Label Switching portion of the network and non-enhanced Multi-Protocol Label Switching portion of the network, wherein the network is a heterogeneous network.” It is respectfully requested that the rejection to this claim be withdrawn.

Regarding independent claim 15, the Office Action indicated that “a kind of data” in line 7 and “the kind of data” in line 8 render the claim indefinite because it is unclear what the terms mean. The Office Action did not find support for the recitations associated with the FEC. In Response independent claim 15 has been amended to more particularly point out and distinctly claim the invention. In particular, independent claim 15 has been amended to recite, “wherein the forwarding equivalence class (FEC) is based on a group of packets forwarded in a same class or manner and wherein the labeler examines the label of the received packet to identify data included in the received packet.” Applicant respectfully refers to pages 3, 6, 9, 15, and 18 of the specification for support for the amended recitations. It is respectfully requested that the rejection to this claim be withdrawn.

Regarding independent claim 25, the Office Action indicated that the limitation “using the second type of message...” in lines 13-17, renders the claim indefinite because

it is unclear whether the existing LSP are kept or not in either EMPLS portion or MPLS portion. In response, Applicant respectfully traverses this rejection. Applicant respectfully indicates that the features of independent claim 25 do particularly point out and distinctly claim the subject matter which Applicant regards as the invention. Independent claim 25 recites, in part, “when a new resource is required for at least one flow of packets from the connection, using the second type of message to reserve the newly required resource at each router that employs an enhanced MPLS (EMPLS) protocol and is disposed along the existing LSP.” Applicant respectfully indicates that a person of ordinary skill in the art would appreciate, in light of the features recited in independent claim 25, that **when a new resource is required for at least one flow of packets from the connection**, the second type of message is then used to reserve the newly required resource at each router that employs an enhanced MPLS (EMPLS) protocol and is disposed along the existing LSP. Otherwise, the second type of message is used “to reserve the required resource at each router along the LSP for at least one flow of packets from the connection,” as recited in independent claim 25. Furthermore, such feature recited in independent claim 25 is clearly supported, at least, in FIG. 7B and pages 19 and 20 of the Specification for a person of ordinary skill in the art to make and use the invention for its intended purpose. It is respectfully requested that the rejection to this claim be withdrawn.

REJECTION UNDER 35 U.S.C. § 103:

In the Office Action, at page 2, claims 15-17, 20-22, and 24 were rejected under 35 U.S.C. § 103 as being unpatentable over U.S. Patent No. 6,665,273 to Goguen et al. ("Goguen") in view of U.S. Publication No. 2002-0080794 to Reeves et al. ("Reeves"). The Office Action took the position that Goguen and Reeves disclose all the aspects of independent claim 15. The rejection is traversed and reconsideration is requested.

Independent claim 15, upon which claims 16-17 and 19-24 are dependent, recites a router for forwarding packets to a final destination over a Multi-Protocol Label Switching (MPLS) network. The router includes a transceiver for receiving and transmitting each packet of one or more flows of packets from a source to a destination. The router also includes a labeler for labeling each packet with a label according to a forwarding equivalence class (FEC) that corresponds to the label. The forwarding equivalence class (FEC) is based on a group of packets forwarded in a same class or manner. The labeler examines the label of the received packet to identify data included in the received packet. The router includes a pathmaker for assisting in establishing a label switched path along which each packet is forwarded between an ingress router and an egress router of an enhanced MultiProtocol Label Switching (EMPLS) network. The label switched path corresponds to the label of each packet. The router includes a reserver for assisting in reserving resources along the label switched path. The reserver further assists in dynamically modifying resources reserved along the label switched path while avoiding establishing a new label switched path. The router includes a scheduler that forwards

each received packet along the label switched path towards the egress router. The egress router removes the label and forwards each packet.

As will be discussed below, Goguen and Reeves fail to disclose or suggest the elements of any of the presently pending claims.

Goguen generally describes an MPLS system supporting unicast (traffic engineering) TE tunnel routing. See column 2, lines 20-40. Generally, when a TE tunnel is being established, assuming it to be a dynamic path, the TE module sets the resource requirement of the path based on operator input or default. The TE path calculation module calculates a constrained short path from the “head-end” router to the “tail-end” router based on resources required to setup the path, which in this instance is path 200. (Resource Reservation Protocol) RSVP then signals the routers along the path 200 that a setup is being performed. The Office Action correctly recognized that Goguen does not teach or suggest the features of the labeler recited in independent claim 15.

In addition, Goguen describes a TE module using RSVP causing router R1 at the head-end of the tunnel to send a setup request to the router Rn at the tail-end of the tunnel. The setup request travels along the calculated path 200 until it reaches the tail-end router Rn. See column 2, lines 41-67. Upon receipt of the setup request, the router Rn returns a setup reply to router R1 over the path 200 traveled by the setup request. When router Rn-1 receives the setup reply, it requests a label from the label allocation module, which allocates a label LRn-1 for the segment of the path. However, Goguen does not teach or suggest, at least, “a pathmaker for assisting in establishing a label

switched path along which each packet is forwarded between an ingress router and an egress router of an enhanced MultiProtocol Label Switching (EMPLS) network, wherein the label switched path corresponds to the label of each packet,” as recited in independent claim 15. Rather, Goguen simply limits its description to establishing a data path for adjusted bandwidths. There is no description or suggestion in Goguen providing that an element is provided for assisting in establishing a label switched path along which each packet is forwarded between an ingress router and an egress router of an EMPLS network, where the label switched path corresponds to the label of each packet.

Reeves does not cure the deficiencies of Goguen. Rather, Reeves limits its description to providing that in MPLS a packet is assigned to a FEC only once as the packet enters an MPLS domain, and a “label” representing the FEC is attached to the packet. See paragraph [0038]. When MPLS is deployed over an ATM infrastructure, the label is a particular VC identifier. At subsequent hops within an MPLS domain the IP packet is no longer examined. Instead, the label provides an index into a table which specifies the next hop, and a new label. Thus, at subsequent hops within the MPLS domain the constituent ATM cells of a packet can be switched using conventional ATM switching techniques. Such paths are known in the art as label switched paths (LSPs).

Although Reeves generally defines LSP, that alone does not cure the deficiencies of Goguen. Specifically, similarly to Goguen, Reeves fails to teach or suggest, “a labeler for labeling each packet with a label according to a forwarding equivalence class (FEC) that corresponds to the label, wherein the forwarding

equivalence class (FEC) is based on a group of packets forwarded in a same class or manner and wherein the labeler examines the label of the received packet to identify data included in the received packet,” as recited in independent claim 15. Even if Reeves describes employing a first type of message to establish a Label Switching Path (LSP) in the network, not admitted, Reeves does not teach or suggest labeling each packet with a label according to a forwarding equivalence class (FEC) that corresponds to the label, where the forwarding equivalence class (FEC) is based on a group of packets forwarded in a same class or manner and wherein the labeler examines the label of the received packet to identify data included in the received packet. In addition, similarly to Goguen, Reeves is silent as to teaching or suggesting, at least, “a pathmaker for assisting in establishing a label switched path along which each packet is forwarded between an ingress router and an egress router of an enhanced MultiProtocol Label Switching (EMPLS) network, wherein the label switched path corresponds to the label of each packet,” as recited in independent claim 15. Thus, a combination of Goguen and Reeves would fail to teach or suggest all the recitations of independent claim 15 and related dependent claims.

Accordingly, in view of the foregoing, it is respectfully requested that independent claims 1 and 25 and related dependent claims be allowed.

CONCLUSION:

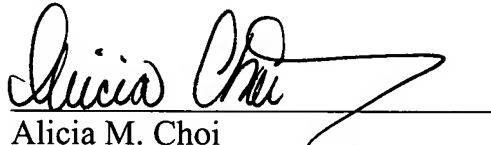
In view of the above, Applicant respectfully submits that the claimed invention recites subject matter which is neither disclosed nor suggested in the cited prior art. Applicant further submits that the subject matter is more than sufficient to render the claimed invention unobvious to a person of skill in the art. Applicant therefore respectfully requests that each of claims 1, 11, 15-17, 20-22, and 24-25 be found allowable and, along with allowed claims 2-10, 13, 14, 19, and 23, this application passed to issue.

If for any reason the Examiner determines that the application is not now in condition for allowance, it is respectfully requested that the Examiner contact, by telephone, the Applicant's undersigned attorney at the indicated telephone number to arrange for an interview to expedite the disposition of this application.

In the event this paper is not being timely filed, the Applicant respectfully petitions for an appropriate extension of time.

Any fees for such an extension together with any additional fees may be charged to Counsel's Deposit Account 50-2222.

Respectfully submitted,


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Enclosures: Petition for Extension of Time
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